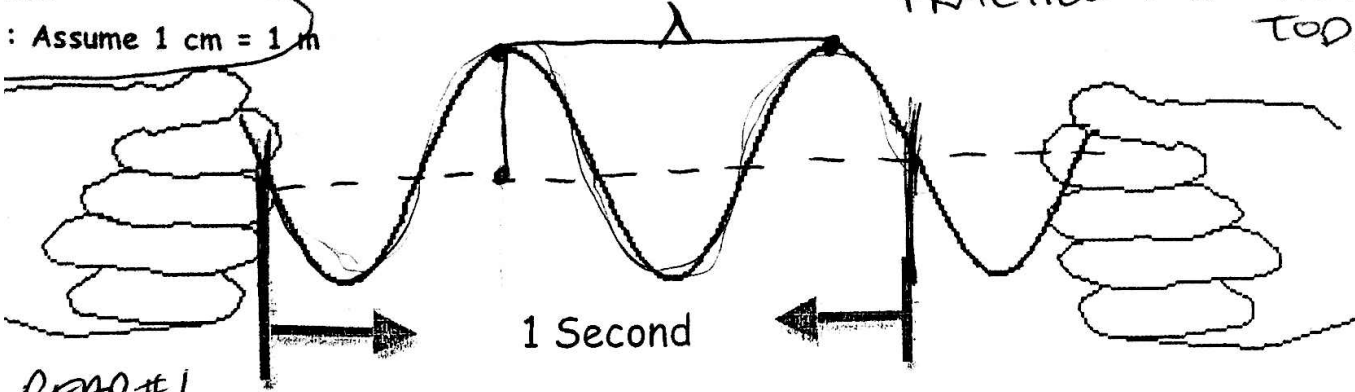


: Assume 1 cm = 1 m



READ #1

Sketch above illustrates a snapshot in time of a wave sent along a cord. The wave illustrated was generated by hand on the left and has just reached the hand on the right.

Measure directly on the diagram to determine:

Wavelength 4 m    amplitude 1.5 m    period 0.5 s    frequency 2 Hz    speed 8 m/s

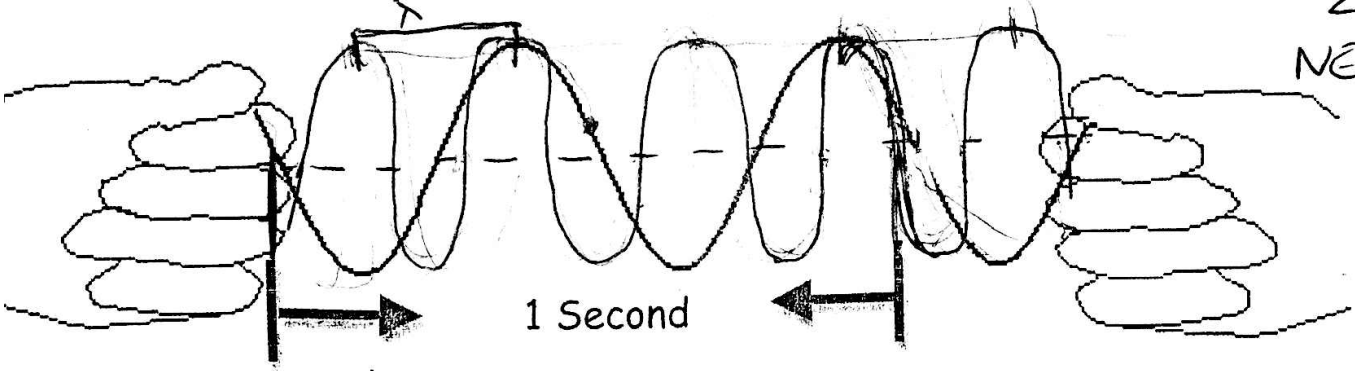
OR VELOCITY  $U = f \lambda$

FROM EQ LINE TO CREST OR TROUGH    THE TIME THAT IT TAKES FOR 1 WAVE CYCLE TO COMPLETE    WAVE CYCLES/SECOND    PERIOD

Directly on the sketch above label one wavelength, one crest, one trough, and one amplitude.

Sketch a wave over the diagram below that has a wavelength of half that of the drawn wave.

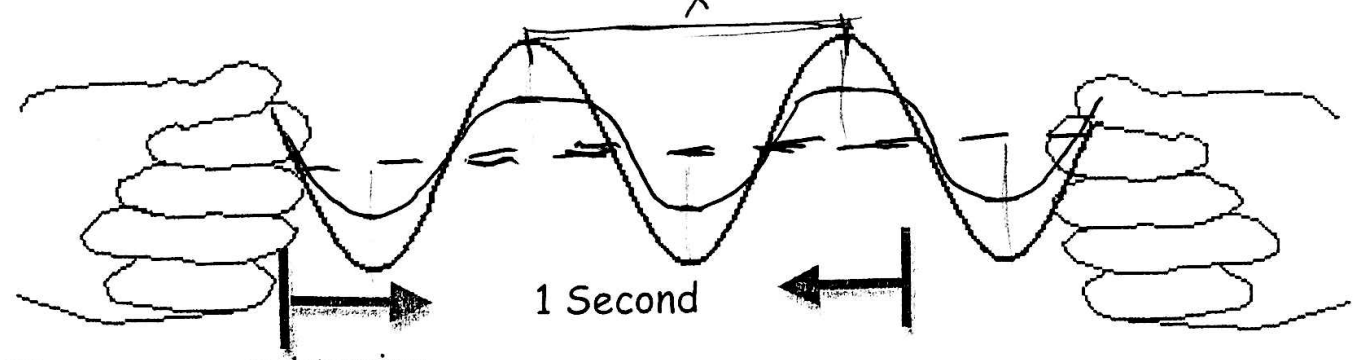
ORIG 2.5 WAVES  
NEW 2S WAVES



Measure your wave to determine:

Wavelength 2 m    amplitude 1.5 m    period 0.25 s    frequency 4 Hz    speed 8 m/s

Sketch a wave over the diagram below that has an amplitude of half that of the drawn wave.



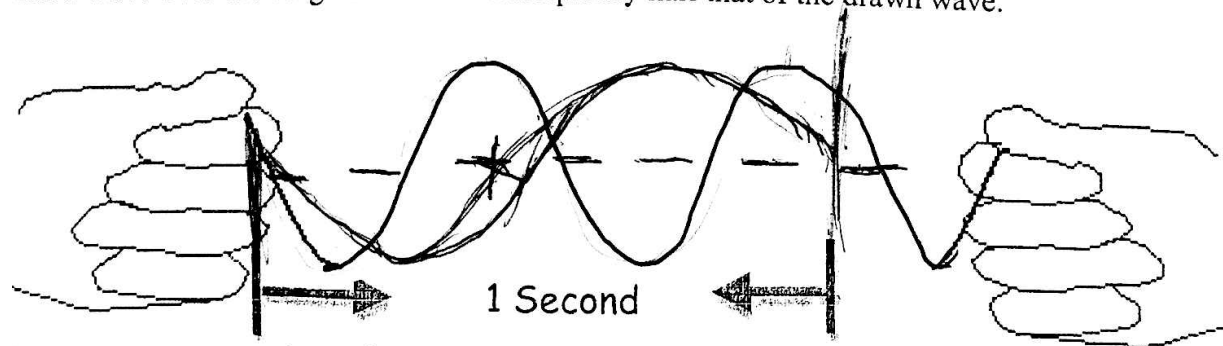
Measure your wave to determine:

Wavelength 4 m    amplitude 0.75 m    period 0.5 s    frequency 2 Hz    speed 8 m/s

E: \_\_\_\_\_

2 x WAVE LENGTH

atch a wave over the diagram that has a frequency half that of the drawn wave.



leasure your wave to determine:

wavelength 8 m    amplitude 1.5 m    period 1 s    frequency 1 Hz (cycles/sec)    speed 8 m/s

ication: Compare the Drawings you just did, with the 1<sup>st</sup> (Original) Picture on the first page to answers Questions #'s 5-10

wavelength decreases by half (Hint: Look at drawing in Question #2),

(FOR I, II, & III: Circle one in each and fill in information)

- |  |                     |                           |
|--|---------------------|---------------------------|
| I. amplitude increases by _____,       | decreases by _____, | <u>or stays the same.</u> |
| II. frequency increases by <u>2x</u> , | decreases by _____, | <u>or stays the same.</u> |
| III. speed increases by _____,         | decreases by _____, | <u>or stays the same.</u> |

s amplitude decreases by half (Hint: Look at drawing in Question #3),

(FOR I, II, & III: Circle one in each and fill in information)

- |                                   |                     |                           |
|-----------------------------------|---------------------|---------------------------|
| I. wavelength increases by _____, | decreases by _____, | <u>or stays the same.</u> |
| II. frequency increases by _____, | decreases by _____, | <u>or stays the same.</u> |
| III. speed increases by _____,    | decreases by _____, | <u>or stays the same.</u> |

As frequency decreases by half, (Hint: Look at drawing in Question #4),

(FOR I, II, & III: Circle one in each and fill in information)

- |   |                     |                           |
|---|---------------------|---------------------------|
| I. amplitude increases by _____,        | decreases by _____, | <u>or stays the same.</u> |
| II. wavelength increases by <u>2x</u> , | decreases by _____, | <u>or stays the same.</u> |
| III. speed increases by _____,          | decreases by _____, | <u>or stays the same.</u> |

As wavelength doubles, (FOR I, II, & III: Circle one in each and fill in information)

- |                                   |                          |                           |
|-----------------------------------|--------------------------|---------------------------|
| I. amplitude increases by _____,  | decreases by _____,      | <u>or stays the same.</u> |
| II. frequency increases by _____, | decreases by <u>2x</u> , | <u>or stays the same.</u> |
| III. speed increases by _____,    | decreases by _____,      | <u>or stays the same.</u> |

PHYSICAL SCIENCE  
NAME: \_\_\_\_\_  
As amplitude dou

- I. wavelength  
II. frequency  
III. speed in  
0. As frequency d  
I. amplitude  
II. wavelen  
III. speed i

1. In each of the showing what



E: \_\_\_\_\_  
 amplitude doubles, (FOR I, II, & III: Circle one in each and fill in information)

- |                                   |                     |                           |
|-----------------------------------|---------------------|---------------------------|
| I. wavelength increases by _____, | decreases by _____, | <u>or stays the same.</u> |
| II. frequency increases by _____, | decreases by _____, | <u>or stays the same.</u> |
| III. speed increases by _____,    | decreases by _____, | <u>or stays the same.</u> |

As frequency doubles, (FOR I, II, & III: Circle one in each and fill in information)

- |                                    |   |                           |
|------------------------------------|---|---------------------------|
| I. amplitude increases by _____,   | decreases by _____,                         | <u>or stays the same.</u> |
| II. wavelength increases by _____, | decreases by <u><math>\times 2</math></u> , | <u>or stays the same.</u> |
| III. speed increases by _____,     | decreases by _____,                         | <u>or stays the same.</u> |

11. In each of the following situations, two pulses are shown traveling toward each other. Make three sketches showing what will happen a) just prior to, b) during and c) immediately after intersection.

